

THE GENUS MORETHIA (LACERTILIA, SCINCIDAE) IN SOUTH AUSTRALIA

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INTRODUCTION

The genus *Morethia* Gray, 1845 was formerly part of *Ablepharus* Lichtenstein, 1823 (Fuhn, 1969). As more knowledge has accumulated about our local skinks, it has become obvious that the genus needs revision; the collection of the South Australian Museum contains many specimens under the name *M. lineocellata* (Duméril and Bibron, 1839) which can in fact be easily distinguished from it. This paper gives diagnostic characters and, where necessary, descriptions for *M. adelaidensis* (Peters), *M. boulengeri* (Ogilby), *M. butleri* (Storr), *M. lineocellata* and *M. taenioleura* (Peters).

I dedicate this paper to the memory of John Mitchell, late Curator of Herpetology in the South Australian Museum, who was for several years my mentor as I learned herpetology.

Genus **MORETHIA** Gray

Morethia Gray, 1845, *Catalogue of the specimens of lizards in the collection of the British Museum*, p. 65.

Type-species: *Ablepharus lineocellatus* Duméril and Bibron, 1839.

I have accepted Fuhn's (1969) distinction of this genus from *Ablepharus* on the basis of skull structure. All members are without moveable eyelids, the eye being covered by a transparent disc. All are pentadaetyl. The two frontoparietals and the interparietal are fused into a single scale. The parietals meet in the mid-line.

Morethia adelaidensis (Peters)

Figs. 1, 6

Ablepharus (Morethia) anomalus (adelaidensis) Peters, 1874, Sber. Dt. Akad. Wiss., Phys.—Math. Klasse, Juni 1874, 376 (formerly Monatsb. K. Preuss. Akad. Wiss. Berlin).

Ablepharus lineo-ocellatus var. *adelaidensis* Boulenger, 1887, *Catalogue of the lizards in the British Museum*, 3: 349. (Part). "S. Australia."

Lectotype: Kat. Nr. 4733 in the Museum für Naturkunde, Berlin. Adelaide. Schomburgk. Snout-vent length 5.05 cm. (This is the largest of the three specimens under this catalogue number.)

Diagnosis: Five supraciliaries; the third, fourth and fifth all penetrate between the supraoculars.

Subdigital lamellae acutely unicarinate or tricarinate. Palmar tubercles elongate, apically acute.

Description: Snout-vent length up to 55 mm. Intact tail 120-165% of snout-vent length.

Supranasals present, widely separated, separate from or fused to a small postnasal. Prefrontals narrowly separated. Frontonasal wider than long. Frontal longer than wide, in contact with first and second supraoculars. Four supraoculars, the second the largest. Frontoparietals and interparietal fused into a single large scale as wide as long, in contact with the second, third and fourth supraoculars. One pair of nuchals. Seven

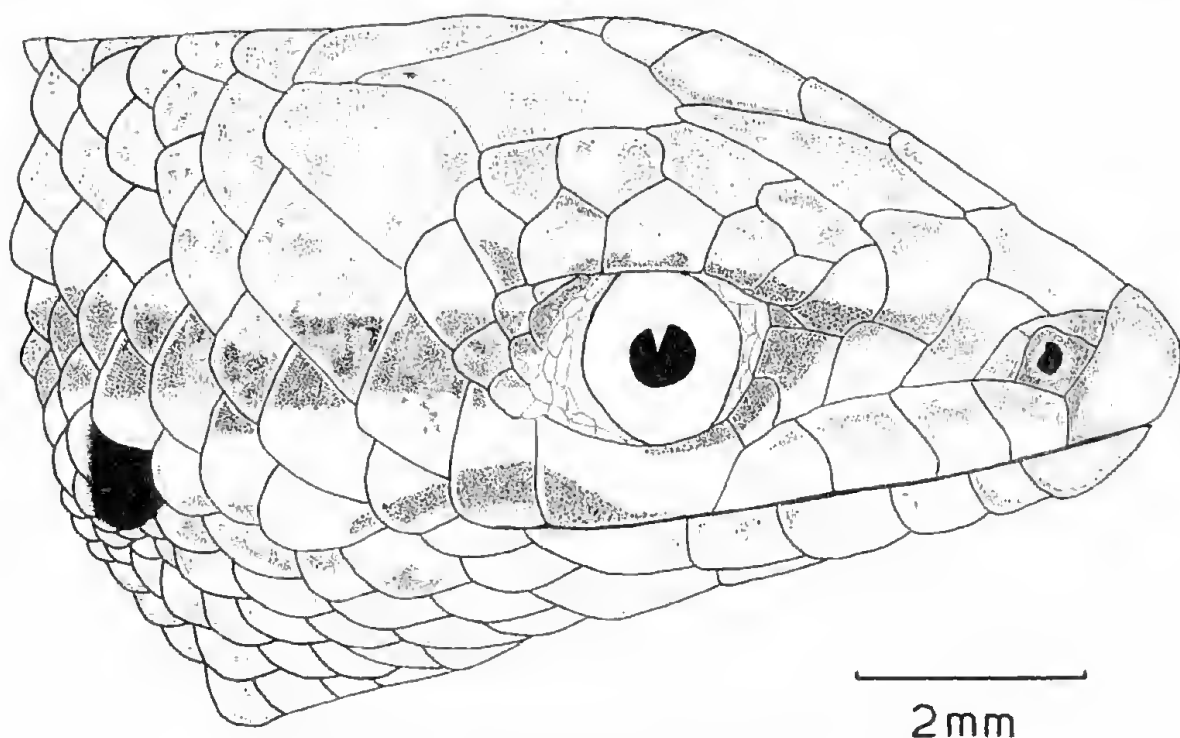


Fig. 1. Head of *Morethia adelaidensis*, Wingfield, S. Aust.

labials, the fifth the largest, entirely subocular. Eye entirely surrounded by granules. Five supraciliaries, the second the smallest, the third, fourth and fifth about equal in size and all penetrating between the supraoculars (Fig. 1).

Subdigital lamellae acutely unicarinate or, in some specimens, tricarinate. There are 18-24 under the fourth toe, mean 19.5, mode 19. Palmar tubercles elongate and apically acute. The forelimbs when adpressed barely reach the eye.

Midbody scale rows 26-34, usually 28 or 30; mean 29.4.

Colour in life, grey or olive-grey above; some specimens are browner, and specimens from Ooldea are distinctly ferruginous. There are usually two broad black interrupted dorso-lateral lines from the back of the head onto the anterior parts of the tail, sometimes continued down the tail as a single mid-dorsal line. Along each side is an interrupted and irregular white line extending from the upper labials, through the ear, above the forelimb, and along the side to the hindlimb. Above this is a darker band, often strongly speckled with lighter markings; below is a weaker, speckled dark band. Ventral surface white. The males in breeding condition develop an orange colour all around the edges of the ventral surfaces, extending onto the inside surfaces of both fore and hind limbs and being particularly prominent around the vent and under the anterior part of the tail.

Specimens from the Lake Eyre Basin are distinctly paler, and in some the dorsal and lateral black bands are barely visible.

Distribution: In South Australia, so far recorded from the arid north-east, extending south into the coastal habitat along the edges of the Gulfs and west across the Nullarbor Plain into Western Australia (Fig. 6).

Remarks: Peters (1874), in describing *M. taeniopleura*, compared it with specimens of what he called *Ablepharus (Morethia) anomalus (adelaidensis)*. The specimens available to Peters at the time included three from Adelaide which are clearly *M. adelaidensis* as described above. It is from among these that I have designated a lectotype.

Boulenger (1887) distinguished *adelaidensis* as a variety of *M. lineocellata*, and his brief description fits Peters's specimens. But the specimens Boulenger lists under this name include, as well as *M. adelaidensis*, several *boulengeri* as well. The inadequacy of both Peters's and Boulenger's descriptions have compelled me to redescribe *M. adelaidensis* in detail.

Specimens examined: In the South Australian Museum: R1018 Hughes, S.A. (30° 42' S, 129° 31' E) (2 specimens); R2585 Price, S.A. (34° 18' S, 130° 00' E); R3076 North Tent Hill, S.A. (32° 20' S, 137° 27' E); R3186 Yudua Swamp, Moralana Str., S.A. (31° 32' S, 138° 21' E) (2 specimens); R3323 Lake Eyre North, Lake Eyre South (2 specimens); R3431 Lake Callabonna, S.A. (29° 45' S, 140° 04' E); R3590 Coward Springs, S.A. (29° 24' S, 136° 49' E); R3836 south end of Lake Torrens, S.A. (31° 00' S, 137° 50' E) (2 specimens); R3842 Kokatha Hills, S.A. (31° 16' S, 135° 15' E); R4014 Accalana Crossing, Strzelecki Ck., S.A. (29° 14' S, 139° 58' E); R4990 Lake Coongie, S.A. (27° 11' S, 140° 10' E); R5281 Abracurrie, 30 mi. (54 km) W. Eucla, W.A. (31° 48' S, 128° 23' E); R5283 Ceduna, S.A. (32° 07' S, 133° 40' E); R5347

Nullarbor HS, S.A. (31° 26' S, 130° 55' E); R5864 St. Kilda, S.A. (34° 45' S, 138° 31' E); R5946 "Palmerston, N.T." (now Darwin; this locality is probably in error) (16 specimens); R10882, R10883 Ooldea, S.A. (30° 30' S, 131° 50' E); R11945 Pt. Germein, S.A. (33° 01' S, 138° 01' E); R12013 Edithburgh, S.A. (35° 06' S, 137° 44' E); R12689-91, 6 mi. (10 km) N. Pt. Pirie, S.A. (33° 05' S, 138° 00' E); R12692-3 Wingfield, S.A. (34° 51' S, 138° 32' E); unregistered, "Reuther Collection" (10 specimens) no locality (probably from Killalpaninna or Kopperamana Missions, S.A., respectively 28° 36' S, 138° 33' E and 28° 34' S, 138° 40' E).

In the British Museum (Natural History): 64.10.27.9 and 10 "S. Australia"; 1905.10.31.35 and 36, 100 mi. (161 km) S. Lake Eyre, S.A.

In the Museum für Naturkunde, Berlin: Kat. Nr. 4733 Adelaide.

I have also seen specimens from Pt. Gibbon S.A. (33° 47' S, 136° 47' E).

***Morethia boulengeri* (Ogilby)**

Figs. 2, 6

Ablepharus boulengeri Ogilby, 1890, Rec. Aust. Mus., 1: 10-11.

Lectotype: R690 in The Australian Museum, Sydney. Presumably collected by McCooy at Brawlin, New South Wales (34° 44' S, 148° 02' E).

Diagnosis: Six supraciliaries; the first and third are the largest, and the third, fourth, fifth and sixth are successively smaller.

Subdigital lamellae obtusely unicarinate, palmar tubercles rounded.

This species closely resembles *M. butleri*, but is distinguishable by its larger third supraciliary, its much less acutely keeled subdigital lamellae, and its rounded palmar tubercles.

Description: Snout-vent length in adult males 35-55 mm, in adult females 40-57 mm. Intact tail 125-165% of snout-vent length.

Supranasals present, widely separated, often fused with the small postnasal. Prefrontals usually separated. Frontonasal wider than long. Frontal longer than broad, contacting the first and second supraoculars. Four supraoculars, the second the largest. Frontoparietals and interparietal fused into a single large scale about as long as broad, contacting the second, third and fourth supraoculars. (Ogilby describes a separate interparietal, but all three syntypes, and all other specimens I have examined, have the interparietal fused with the frontoparietals.) One pair of nuchals.

Seven labials (sometimes eight), the fifth the largest, entirely subocular. Eye surrounded by granules. Supraciliaries six, the first and third the largest, the first penetrating between the prefrontal and first supraocular, the third

penetrating between the first and second supraoculars. The fourth, fifth and sixth supraciliaries do not penetrate between the supraoculars, and decline regularly in size so that their medial margins form a regular slightly curving line (Fig. 2). Ear suboval, usually with smaller granules more or less projecting from the anterior edge.

Five fingers and toes. Lamellae under the fourth toe 15-23, mean 19.5, mode 19, obtusely uncarinate. Palmar tubercles rounded. The forelimbs when adpressed reach just beyond the eye.

Midbody scale rows 26-32, mean 29.7, mode 30.

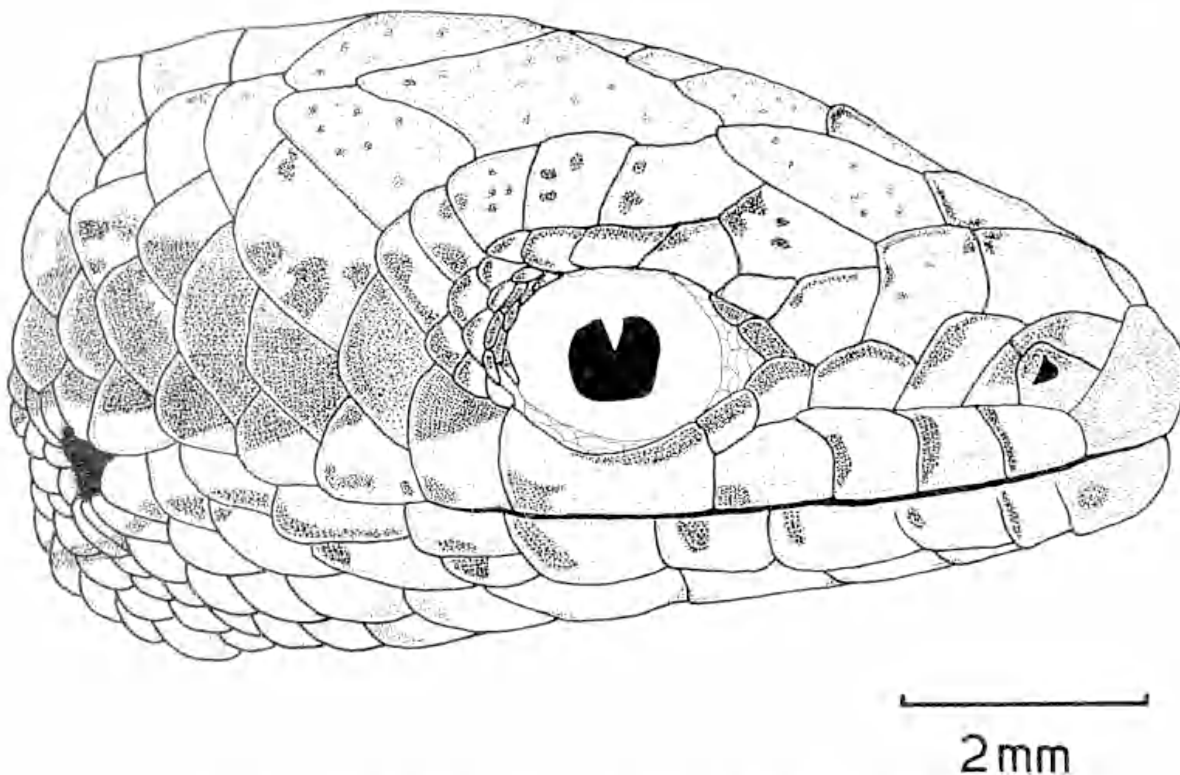


Fig. 2. Head of *Morethia boulengeri*, Salter Springs, S. Aust.

Colour almost identical to *M. butleri*. A uniform brown above; most or all of the dorsal scales have 2-5 (usually 3) fine black lines running along them, diverging posteriorly; often these lines are expanded and merge into a black spot or streak, sometimes giving the appearance of interrupted lines of spots or streaks down the back, but more often distributed irregularly.

A pure white stripe on each side begins on the upper labials and runs under the eye, through the ear, above the forelimb and along the flank to the hindlimb. This white stripe is very prominent, being edged above and usually below by black stripes. The upper of these black stripes, usually three scale rows wide, is usually very regular and clearcut on its lower margin,

and runs from the eye to the hindlimb or a little beyond, frequently becoming less prominent posteriorly. The lower black side-stripe is narrow, irregular and often interrupted.

Ventral surfaces silver-white. In adult males in breeding condition the throat becomes bright orange.

The tail of juveniles is pale fawn.

Distribution: Throughout the north of the State and as far south as a little north of Adelaide and the Murray Mallee south of the River Murray (Fig. 6). Occurs in the interior of all mainland States.

Remarks: This species is remarkably uniform in colour and morphology over its range in South Australia. It is sympatric with *M. adalaidensis* over much of its range, with *M. taeniopleura* in the Northern Territory, and with *M. lineocellata* in several parts of South Australia. It is not yet known to be sympatric with *M. butleri*, which it closely resembles.

Specimens examined: In the South Australian Museum: R524 Moolooloo Stn., S.A. (30° 59' S, 138° 35' E); R721 "Victoria" (3 specimens); R870 Wynbring, S.A. (30° 33' S, 133° 32' E); R1573 Hermannsburg, N.T. (23° 57' S, 132° 45' E) (2 specimens); R2602 (2 specimens). R2648 Mernmerna, S.A. (31° 36' S, 138° 23' E); R3159 "Black Swamp, S.A." (an unidentifiable locality); R3186 Yudna Swamp, Moralana Stn., S.A. (31° 32' S, 138° 21' E); R3304 Wilpena Pound, S.A. (31° 30' S, 138° 37' E) (5 specimens); R3313 Wonoku Ck., S.A. (31° 50' S, 138° 24' E); R320 Mt. Aroona, S.A. (30° 34' S, 138° 21' E); R3426 6 mi. (10 km) S.W. Wooltana HS., S.A. (30° 25' S, 139° 25' E); R3683 no locality; R3767 Lake Eyre, S.A. (28° 40' S, 137° 10' E); R3849 Kondoolka HS., S.A. (32° 01' S, 134° 53' E) (2 specimens); R3938 S. branch Balcanoona Ck., S.A. (30° 37' S, 139° 38' E) (3 specimens); R4011 Cordillo Downs HS., S.A. (26° 43' S, 140° 38' E) (5 specimens); R4012 Innamineka HS., S.A. (27° 43' S, 140° 45' E); R4352 Wangorohi HS., Balranald N.S.W. (34° 38' S, 143° 34' E); R4990 Lake Coongie, S.A. (27° 11' S, 140° 10' E) (2 specimens); R5484 "Murray Scrub, S.A." (5 specimens); R5526-7 Loxton, S.A. (34° 27' S, 140° 34' E); R5946 "Palmerston, N.T." (now Darwin; this locality is probably in error); R6008 St. Mary Peak, S.A. (31° 30' S, 138° 33' E); R10359 Goyders Lagoon, S.A. (26° 52' S, 139° 00' E) (2 specimens); R10360 (3 specimens); R10361 Glengyle HS., Queensland (24° 48' S, 139° 31' E); R10936 Paralana Hot Springs, S.A. (30° 12' S, 139° 27' E); R10962 Yudnamutana Gorge, S.A. (30° 12' S, 139° 17' E); R11745 Cradock, S.A. (32° 05' S, 138° 30' E); R11936 North Mulga HS., S.A. (30° 17' S, 139° 32' E); R11942-4 Wertalooona HS., S.A. (30° 38' S, 139° 21' E); R11947-51 Bibliando HS., S.A. (31° 51' S, 139° 07' E); R12477 Lincoln Gap Stn.,

S.A. ($32^{\circ} 37' S$, $137^{\circ} 35' E$); R12677, 8 mi. (13 km) W. of Purnong, S.A. ($34^{\circ} 52' S$, $139^{\circ} 32' E$); R12678-9, 4 mi. (7 km) E. of Mantung, S.A. ($34^{\circ} 36' S$, $140^{\circ} 03' E$); R12680 Eba, S.A. ($34^{\circ} 04' S$, $139^{\circ} 36' E$); R12681-2, 1 mi. (2 km) W. of Telowie, S.A. ($33^{\circ} 02' S$, $138^{\circ} 04' E$); unregistered, Moorilyanna Well, S.A. ($26^{\circ} 51' S$, $132^{\circ} 59' E$).

In the Australian Museum, Sydney: R687-9 presumably from Brawlin, N.S.W. ($34^{\circ} 44' S$, $148^{\circ} 02' E$).

In the British Museum (Natural History): 74.4.29.1286-8 "Sandhurst, Victoria"; 90.9.1.4-6 "Brawlin, N.S.W."

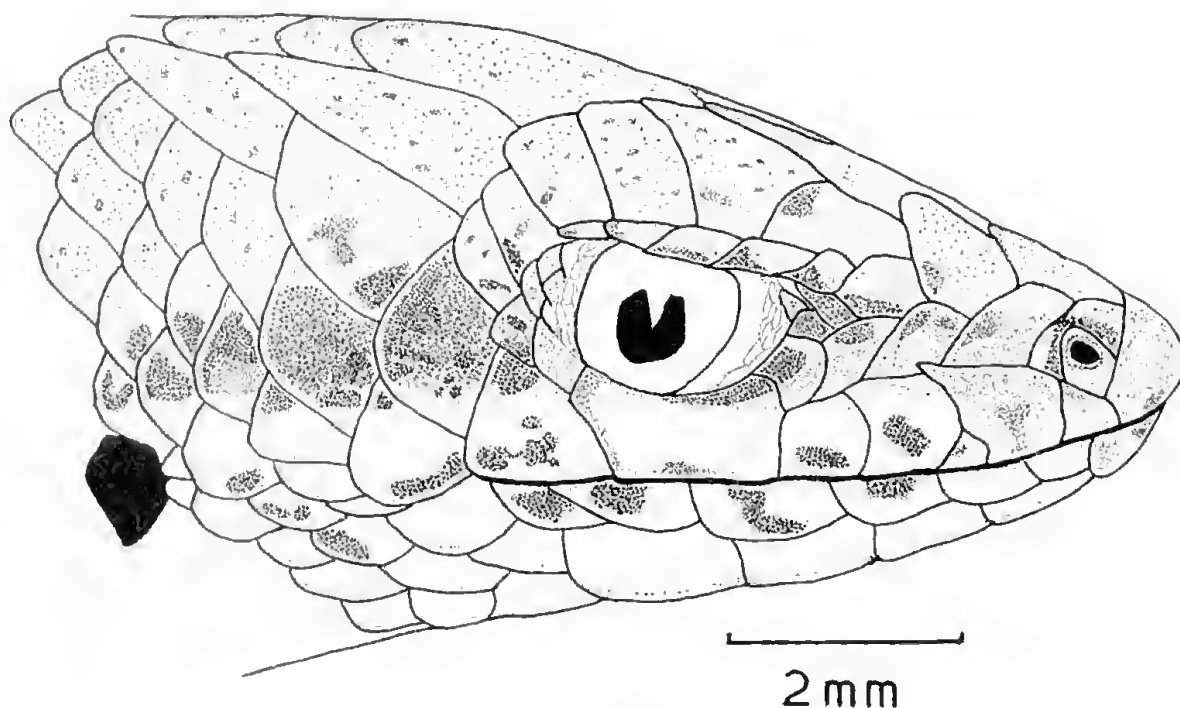


Fig. 3. Head of *Morethia butleri*, Western Australia. Drawn in profile; the others are drawn from slightly above.

***Morethia butleri* (Storr)**

Fig. 3

Ablepharus butleri Storr, 1963. West Aust. Nat., 9: 46-7.

Diagnosis: Supraciliaries form "a straight-sided series of 6 scales, the first of which is largest" (Storr, 1963) (Fig. 3). Subdigital lamellae acutely uncarinate, palmar tubercles apically acute.

Remarks: This species was described from the arid eastern part of Western Australia. Its range probably extends into western South Australia, and I have tentatively ascribed a single specimen from Ooldea (S.A. Museum

R687) to this species. In this specimen the supraciliaries are not as linear as in the Western Australian specimens, and the line separating them from the supraoculars is curved rather than straight. As a result the supraciliary ridge, so prominent in the Western Australian specimens, is absent, and the supraorbital area is slightly convex rather than flat.

Morethia lineoocellata (Duméril and Bibron)

Figs. 4, 6

Ablepharus lineo-ocellatus Duméril and Bibron, 1839, *Erpétologie général*, 5: 817. "Nouvelle-Hollande."

Cryptoblepharus lineo-ocellatus Gray, 1845, *Catalogue of the specimens of lizards in the collection of the British Museum*, p. 65. "Swan River."

Morethia anomalus Gray, 1845, *Ibid*, p. 65. "W. Australia."

Diagnosis: Six supraciliaries; the fourth is the largest, and the third, fourth, and sometimes the fifth penetrate between the supraoculars.

Subdigital lamellae obtusely keeled; palmar tubercles apically rounded.

Description: Snout-vent length up to 53 mm. Intact tail 120-160% of snout-vent length.

The head shields are very similar to those of *M. bouleengeri*, except for the supraciliaries. In nearly all South Australian specimens only the third and fourth penetrate between the supraoculars: the fourth, fifth and sixth are successively smaller (Fig. 4). But in two specimens from west of Spencer Gulf, namely from Wynbring and from the Hundred of Nicholls, the fifth supraciliary is very nearly as large as the fourth and penetrates between the third and fourth supraoculars; and in a juvenile from St. Francis Island the fifth supraciliary, though smaller than the fourth, does penetrate.

Supranasal shields are present in all South Australian specimens.

Subdigital lamellae obtusely keeled; there are 14-22 under the fourth toe, mean 18.4, mode 19. Palmar tubercles apically rounded.

Midbody scale rows 24-31, mean 27.1, mode 28.

Colour: grey above. The dorsal ocellations which give this species its name consist each of a single scale, the middle third of which is white and the two outer thirds black. The ocellation is very variable. On one specimen from central Eyre Peninsula (R10143) ocellations are quite absent, but on specimens from the islands off the west coast of Eyre Peninsula they are bold and numerous, extending from the neck to the end of the tail, and onto the fore and hindlegs.

There is an irregular black stripe along each side, above an irregular white stripe, sometimes faint, running through the ear, over the forelimb and back as far as the hindlimb. These lateral stripes are also very variable, but are never as even or as bold as in *M. boulengeri*. In some specimens they are scarcely visible beyond the foreleg. They are best expressed in the most ocellated individuals.

The male in the breeding season develops a bright orange or orange-pink throat.

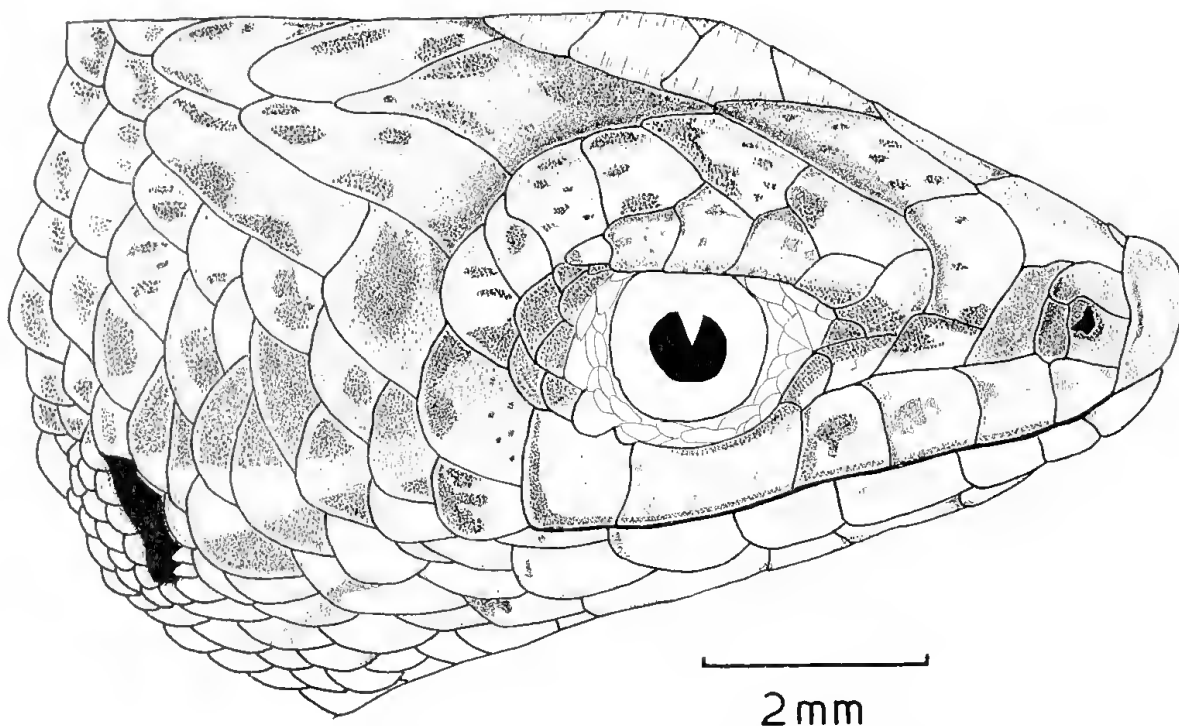


Fig. 4. Head of *Morethia lineocellata*, Mallala, S. Aust.

Distribution: This is a southern species, confined to the cooler parts of the State (Fig. 6) including many of the offshore islands. It also occurs in Western Australia and Victoria.

Remarks: Gray (1845) described *Morethia anomala* from "W. Australia", distinguishing it from *M. lineocellata* because the former, but not the latter, had supranasal scales. All South Australian specimens have supranasals, but I have not used the name *anomala* for them because the presence or absence of supranasals is unlikely, by itself, to be a good specific distinction.

Most South Australian specimens of *M. lineocellata* apparently differ from many Western Australian specimens in that in the former the fifth supraciliary is smaller than the fourth and does not penetrate between the supraoculars. Whether this is a good specific distinction, or merely a variant, I cannot judge on the South Australian material; a careful study of the material from Western Australia, where both forms are apparently common, is required.

Meanwhile it should be noted that Loveridge's (1934) use of the name *Morethia lineocellata anomala* for "the eastern skinks which are characterized by the almost invariable presence of supranasals and a higher than average number of mid-body scale rows", is invalid; he was doubtless referring to *M. adelaidensis* or *M. bouleengeri*, more likely the latter.

Specimens examined: In the South Australian Museum: R4, R5 between Tanunda and Murray flats, S.A.; R558 Purnong, S.A. (34° 52' S, 139° 37' E); R870 Wynbring, S.A. (30° 33' S, 133° 32' E); R968 Wilkawatt, S.A. (35° 23' S, 140° 22' E); R1699 Encounter Bay, S.A. (35° 35' S, 138° 36' E); R2456 Davenport Ck., S.A. (32° 10' S, 133° 26' E); R2457 "Palmerston N.T." (now Darwin; this locality is probably in error) (35 specimens); R2458 Kangaroo Is., S.A. (5 specimens); R2473 Flinders Is., S.A. (33° 44' S, 134° 31' E); R2482 St. Francis Is., S.A. (32° 30' S, 133° 18' E); R2585 Price, S.A. (34° 18' S, 138° 00' E); R3060 North of Buckleboo, S.A. (32° 55' S, 136° 12' E); R3271 Naracoorte, S.A. (36° 58' S, 140° 44' E); R8396 Hambidge National Park, S.A. (33° 22' S, 135° 56' E); R9005 the southeast of County Chandos, S.A. (35° 16' S, 140° 47' E); R9262-5 Bascombe Well National Park, S.A. (33° 37' S, 135° 21' E); R9509 Flinders Is., S.A.; R10143, R10159 Hd. of Nicholls, Hincks National Park, S.A. (33° 51' S, 135° 51' E); R10155, R10167 Hincks National Park, S.A.; R10196, R10218 Flinders Is., S.A.; R10216, R10217 Pearson Is., S.A. (33° 57' S, 134° 16' E); R10299, R10300 Franklin Is., S.A. (32° 27' S, 133° 39' E); R10881 Moonlight Tank, Victoria (35° 45' S, 141° 23' E); R12444 Streaky Bay, S.A. (32° 48' S, 134° 13' E); R12610 Big Heath National Park, S.A. (37° 03' S, 140° 33' S) (5 specimens); R12683 Aldinga Scrub, S.A. (35° 19' S, 138° 27' E); R12684 Spalding Cove, Port Lincoln, S.A. (34° 47' S, 135° 58' E) (2 specimens); R12685 Mallala, S.A. (34° 26' S, 138° 31' E); R12686 6 mi. (10 km) N.E. Renmark, S.A. (34° 09' S, 140° 48' E); unregistered, Eyre's Sand Patch, W.A. (32° 16' S, 126° 18' E) (3 specimens).

In the British Museum (Natural History): 1946.8.15.75 "W Australia" (syntype of *M. anomala* Gray).

In the Museum für Naturkunde, Berlin: Kat.-Nr. 1355-7. Australia.

Morethia taeniopleura (Peters)

Figs. 5, 6

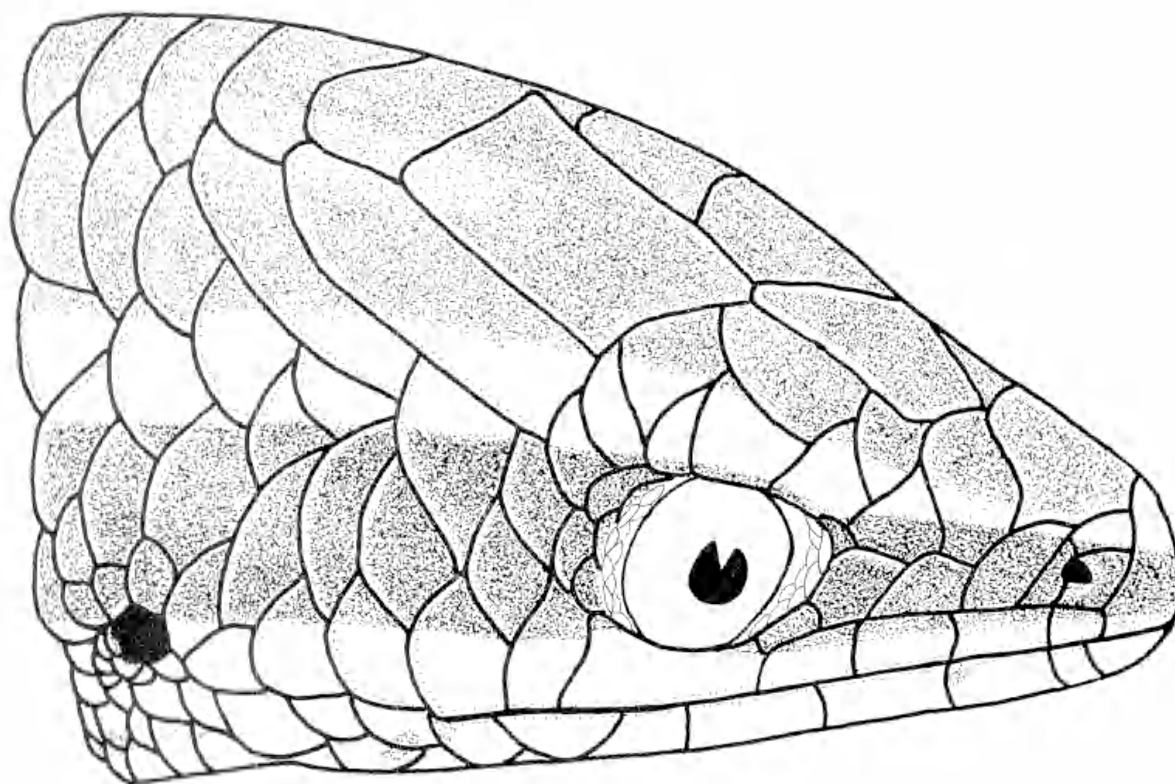
Ablepharus (Morethia) taeniopleurus Peters, 1874, Sber. Dt. Akad. Wiss., Phys.-Math. Klasse, Juni 1874, 375-6. (Formerly Monatsb. K. Preuss. Akad. Wiss. Berlin.) Port Bowen, N.E. Australia.

Diagnosis: Four supraciliaries, the third the largest.

A bold white dorsolateral stripe on each side, from rostral shield to the tail; successively below it a dark band, another white band, and usually a narrow dark line.

Description: A relatively small member of the genus, obviously flattened dorsoventrally. Snout-vent length up to 42 mm. Tail 130-160% of snout-vent length (3 specimens only).

Supranasals present, widely separated. A small postnasal. Frontonasal wider than long. Prefrontals well separated. Frontal longer than wide, contacting the first and second supraoculars. Four supraoculars, the second



2 mm

Fig. 5. Head of *Morethia taeniopleura*, Hermannsburg, N.T.

the largest. Frontoparietals and parietal fused into a single scale about as broad as long, with rather concave borders, contacting the second, third and fourth supraoculars. Parietals meeting in the midline. One pair of nuchals, almost as large as the parietals.

Seven labials, the fifth the largest. Eye surrounded by granules. Four supraciliaries, the first penetrating between the prefrontal and the first supraocular, the second penetrating between the first and second supraoculars, the third, which is the largest, penetrating between the second and third supraoculars. The fourth, which is the smallest, does not penetrate (Fig. 5).

Five fingers and toes. Lamellae under the fourth toe 17-21, mean 19.2, mode 19, acutely unicarinate. Palmar tubercles somewhat elongated.

Midbody scale rows 26-28, mean 26.5.

This species is very distinctively patterned. In old specimens in alcohol the back is dark brown-black; Peters, however, described it as olive-green, and Lucas and Frost (1895) give it as greenish-black. In Northern Territory specimens there is a faint pale vertebral stripe. In specimen from the Pilbara in Western Australia, however, this stripe is silvery white, extending from the middle of the frontal shield onto the tail. Two prominent silvery-white bands one scale row wide meet across the rostral shield and extend back through the supraciliaries and dorsolaterally down the body onto the tail. Below each of these is a black lateral band two scale rows wide, running back from the rostral to a little behind the hindlimb; it includes the eye and passes above the ear and the limbs, getting paler as it goes. Below it is another white band extending along the upper lip, taking in the ear, running over the forelimb and along the side. Its lower margin is bounded by a narrow, irregular, spotted black line which often does not extend far behind the forelimb. Legs pale, spotted with black. Tail pale fawn in spirit specimens, but might be red in life (Lucas and Frost, 1895). Undersurface white.

Distribution: So far not recorded from South Australia, but it undoubtedly occurs in the Far North of the State. Apparently widespread in the Northern Territory; Mitchell (1955) records it from Arnhem Land. Also in northern Western Australia and Queensland.

Remarks: Lucas and Frost (1895) described *A. lineocellatus* var. *ruficaudus* from Goyder River (25° 45' S, 134° 30' E) and Bagot Creek (24° 40' S, 131° 45' E), both in the Northern Territory. Later they gave a coloured illustration of it (Lucas and Frost 1896). These specimens were clearly *M. taeniopleura*. On the other hand, Werner's (1910) description of *A. taeniopleurus* from around Kalgoorlie in Western Australia is a good description of *M. butleri*.

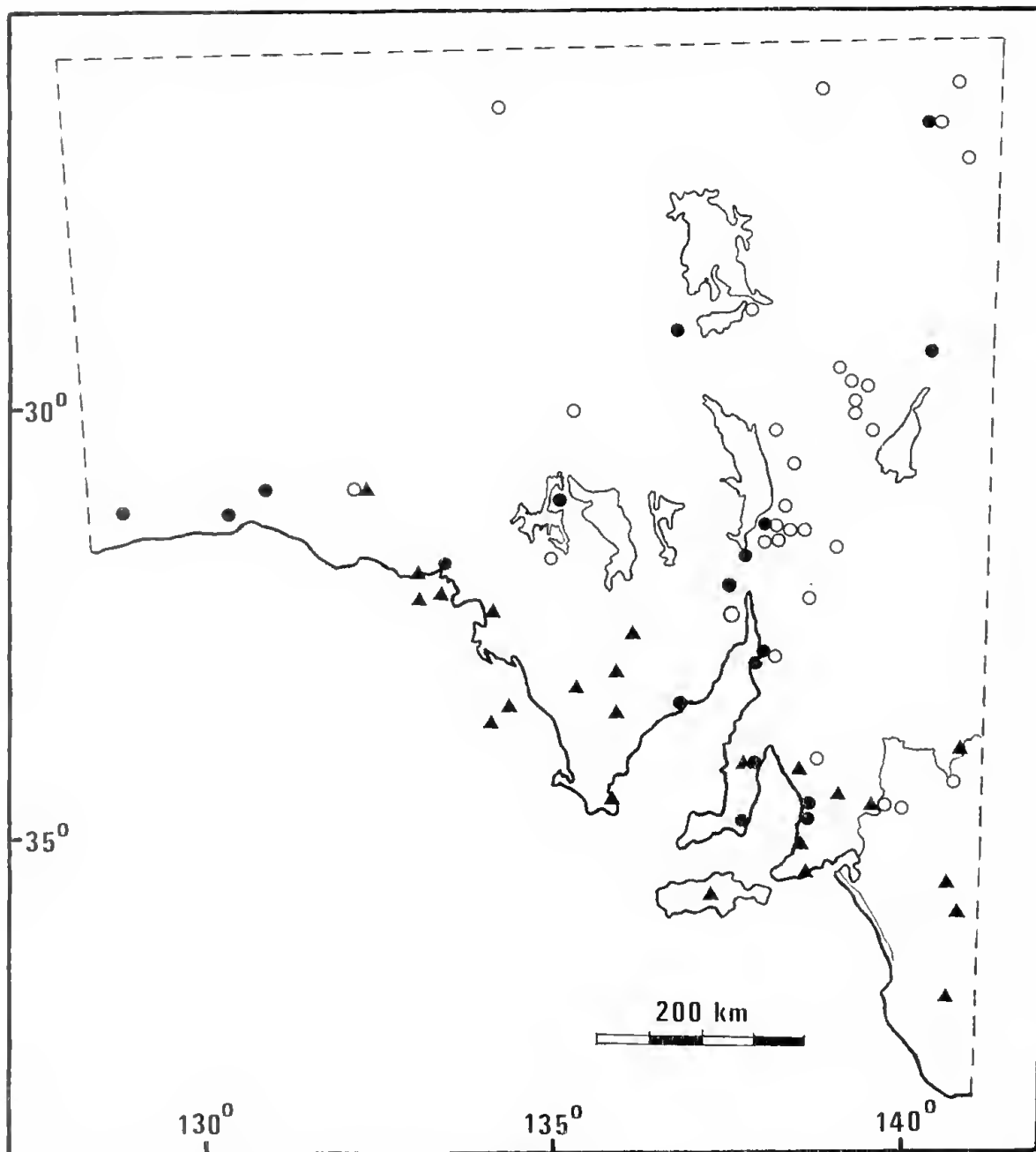


Fig. 6. The known distributions of *M. adelaidensis* (●), *M. boulengeri* (○), and *M. lineocellata* (▲) in South Australia.

Specimens examined: In the South Australian Museum: R1573 Hermannsburg, N.T. ($23^{\circ} 57' S$, $133^{\circ} 32' E$) (3 specimens); R1684 Cockatoo Creek, N.T. ($15^{\circ} 46' S$, $129^{\circ} 08' E$); R2181 Darwin, N.T.; R3463 Pilgangoora Well, W.A. ($20^{\circ} 33' S$, $119^{\circ} 00' E$); R4658 Tambrey HS., W.A. ($21^{\circ} 38' S$, $117^{\circ} 36' E$); R4659 Mt. Herbert, W.A. ($21^{\circ} 19' S$, $117^{\circ} 12' E$); R10321 6 mi. (10 km) N. Yuendumu, N.T. ($22^{\circ} 16' S$, $131^{\circ} 49' E$).

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